ABSTRACT

EFFECT OF DIFFERENT RATIOS OF HYDROPHILIC POLYMER COMBINATION ON PHYSICAL AND CHEMICAL CHARACTERISTICS OF MATRIX TYPE MELOXICAM PATCH

Audi Indah K.E Riantiny

Meloxicam is an Nonsteroidal Anti-Inflammatory Drugs or often known as NSAID used in osteoarthritis therapy. However, it has been reported that meloxicam can irritate the gastrointestinal tract. Transdermal patches is an alternative route which can reduce side effects of meloxicam which has the advantage of controlling drug release. This study aimed to determine the effect of the hydrophilic polymer ratio on physicochemical characteristics of meloxicam patch.

In this study, the matrix type patch was made by solvent evaporation method. The polymer used is hydroxypropyl methylcellulose (HPMC) and sodium alginate as hydrophilic polymers and ethylcellulose (EC) as hydrophobic polymers. Patch will be made in 2 formulas with a ratio of HPMC : Sodium Alginate : Ethylcellulose 5: 4,5: 1,5 respectively in formula 1 and 4,5: 5: 1,5 in formula 2 . All preparations were tested for their physical and chemical characteristics including organoleptic tests, weight uniformity, moisture content (MC), surface morphology, flatness study and content homogenity assay.

The results showed that the increase in HPMC E15 polymer amount in formula 1 resulted in increase the patches weight, MC, drug content and surface with a more even distribution of matrix in formula 1 than formula 2. Overall, it was concluded that formula 1 was a better formula than formula 2.

Keywords: Meloxicam, transdermal patch, sodium alginate, ethylcellulose N22, HPMC E15, characteristic, moisture content